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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/066,168 04/24/98 KATSUBE

M 10089/4

EXAMINER

026646
KENYON & KENYON
ONE BROADWAY
NEW YORK NY 10004

IM52/0911

FORTUNA, A
ART UNIT PAPER NUMBER

Handwritten number 23

1723
DATE MAILED:

09/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/066,168

Applicant
Katsube et al.

Examiner
Ana Fortuna

Art Unit
1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 27, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

1. Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.
2. In view of the Appeal brief filed on 6/27/01, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (a) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (b) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 112

3. Claim rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "permeate outlet extending through the end plates (10, 10'), however, does not reasonably provide enablement for extending the permeate exit "through the container wall (2)". The specification does not enable any person skilled in the art to which it pertains, or with which

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it is most nearly connected, to make the invention commensurate in scope with these claims.

Bases for the specific limitation were not found in the specification, including figure drawings.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bickson et al.(5,160,042)('042). Reference '042 substantially discloses the claimed invention including opposite arrangement of hollow fibers membrane bundles disposed around a central perforated core, potted at one end and arranged within a housing for collecting permeate from open ends at opposite end of the housing (Fig. 4, elements 5, 16, 16, 4). The housing provided with a feed inlet and non-permeate outlet is also disclosed, in operation the feed can be provided through inlet extending from the housing wall, and non-permeate collected from the perforated central pipe(2, and 10), however, reversing the feed direction by using the central perforated pipe which has an inlet extending in the direction of the modules(hollow fiber modules), and removing the non-permeate conduit through by using the conduit extending from the container or housing wall as nonpermeate discharge is also suggested (Fig. 5). The particular membrane modules that can be used in the hollow fiber arrangement are also disclosed by '042 (column 6, lines 1-68, column

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7, lines 1-3). Reference '042 teaches hollow fibers arranged in bundles in a cylindrical shape around the center core, which teaches the longitudinal arrangement of hollow fibers as claimed in the present invention (column 2, lines 1-54). Regarding the discharge outlet as positioned "substantially proximal to one end of the cylindrical pressure vessel or housing, reference '042 discloses positioning the port (2), which is suggested to be used as inlet or outlet as discussed above, as "not necessarily being positioned" at the center of the pressure shell (housing) (column 8, lines 28-62). It would have been obvious to one skilled in the art at the time the invention was made to place the conduit (2), at any location through the housing (4) length, depending on the annular space width, and avoiding build up of pressure in the annular space. Therefore, the reference ('042) although preferred the conduit (when used as inlet, at the center), does not exclude its location at a location "substantially proximal to the end of the vessel", and in that particular situation solid removal at the end of the vessel can expected to be removed.

Furthermore, modules having the discharge outlet at the end of the housing and lateral or positioned axial with the modules at the end of the vessel and opposite to the inlet are of record, and are known the skilled in the art.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference 4,880,440 teaches hollow fiber modules having retentate exit at opposite end of the feed and located substantially at the end of the housing. 5,137,631 discloses hollow fiber bundles arranged to have a feed inlet in a central core, collecting permeate at opposite ends

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of the housing, and removing retentate from the shell at opposite end of the feed., reference 6,251,275 also discloses serial arrangement of hollow fiber bundles within a vessel.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular responses, and (703)872-9311 for after finals.

Ana Fortuna

September 9, 2001



ANA FORTUNA
PRIMARY EXAMINER